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EXAMINER				
LEWIS, ALICIA M				
ART UNIT		PAPER NUMBER		
2164				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/648,145

Applicant(s)

HARVEY ET AL.

Examiner

Alicia M. Lewis

Art Unit

2164

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2009 and 19 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 11/19/2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This office action is responsive to the Request for Continued Examination (RCE) filed November 19, 2009. Claims 1, 3-5, 7, 8 and 10-12 are currently amended. Claims 1-20 remain pending in this application.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on November 19, 2009 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

2. Claim 9 is objected to because of the following informalities: It is unclear as to which object the term "the first object" is referring. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 5-7, and 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Cutlip (US 2004/0039738 A1).

With respect to claims 1 and 5, Cutlip teaches a computer-implemented method for use in a web services system having complex UDDI object(s) (paragraphs 4 and 24), the method comprising:

providing a database for storing at least one directory parent object within a first object class, the at least one directory parent object including a plurality of attributes, the at least one direct parent object comprising at least one unique attribute (i.e. Dun and Bradstreet Number, US Tax Identifier, and NAICS classification) that occurs only once in the at least one directory parent object (Fig. 10, paragraphs 45-46) and a repeating attribute that occurs more than once in the at least one directory parent object (Figs. 3, 15A and 15B, paragraphs 40, 43, 45 and 70);

using a processor in communication with the database to create a first directory child object for storing a first value associated with the repeating attributes, the first directory child object also within the first object class (Figs. 3, 15A and 15B, paragraphs 40, 43 and 70);

using the processor to remove the repeating attribute from the at least one directory parent object such that the at least one directory parent object comprises only unique attributes (Figs. 3 and 10, paragraphs 40, 34 and 45-46); and

storing, in the database, the value associated with the repeating attribute in the first directory child object (Figs. 3, 15A and 15B, paragraphs 40, 43 and 70).

With respect to claims 2 and 6, Cutlip teaches using the processor to create a second directory child object (*i.e. Acme Service Number 2*) for storing a second value associated with the repeating attribute, the second child object also within the first object class (Figs. 3, 15A and 15B, paragraphs 40, 43 and 70).

With respect to claims 3 and 7, Cutlip teaches wherein the parent object is at least one of a business entity, business service, binding template and tmodel (Fig. 3, paragraph 43).

With respect to claims 13 and 17, Cutlip teaches further comprising creating a searchable index of the first value associated with the repeating attribute (paragraphs 22 and 76, claim 3).

With respect to claims 14 and 18, Cutlip teaches storing at least one unique attribute in the directory parent object (paragraph 43).

With respect to claims 15 and 19, Cutlip teaches wherein the directory parent object comprises a business entity and the at least one unique attribute comprises a business key (Figs. 3 and 10, paragraphs 43 and 45).

With respect to claims 16 and 20, Cutlip teaches wherein the first directory child object is selected from the group consisting of name, description, contact, discovery URL, keyed references and business services (Fig.3, paragraphs 42-43).

5. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Gadbois et al. (US 2004/0002955 A1) ('Gadbois').

With respect to claims 1 and 5, Gadbois teaches a method for use in a web services system having complex UDDI object(s) (paragraphs 21 and 24), the method comprising:

providing a database for storing at least one directory parent object within a first object class, the at least one directory parent object including a plurality of attributes, the at least one direct parent object comprising at least one unique attribute (*i.e.* *organization name*) that occurs only once in the at least one directory parent object and a repeating attribute that occurs more than once in the at least one directory parent object (Fig. 2, paragraphs 27-28);

using a processor in communication with the database to create a first directory child object for storing a first value associated with the repeating attributes, the first directory child object also within the first object class (Fig. 2, paragraph 28);

using the processor to remove the repeating attribute from the at least one directory parent object such that the at least one directory parent object comprises only unique attributes (Fig. 2, paragraphs 27-28); and

storing, in the database, the value associated with the repeating attribute in the first directory child object (Fig. 2, paragraphs 28).

With respect to claims 2 and 6, Gadbois teaches using the processor to create a second directory child object (*i.e. Business Service 2*) for storing a second value associated with the repeating attribute, the second child object also within the first object class (Fig. 2, paragraph 28).

With respect to claims 3 and 7, Gadbois teaches wherein the parent object is at least one of a business entity, business service, binding template and tmodel (Fig. 2, paragraph 27).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadbois et al. (US 2004/0002955 A1) ('Gadbois') in view of Colgan (US 5,956,499), and further in view of Sutherland (US 7,054,858 B2)

With respect to claims 4 and 8, Gadbois teaches a method of flattening a hierarchy in a web services arrangement, the method comprising:

providing a database for storing a hierarchical structure of a plurality of UDDI objects, the plurality of objects comprising at least one parent object, at least a first child object, and at least a second child object (Fig. 2, paragraphs 21-23); and

using a processor in communication with the database to identify a one-to-one relationship between the first child object and the second child object (elements 224 and 272 in Figure 2).

Gadbois does not teach using the processor to remove a portion of the hierarchical structure having the one-to-one relationship by moving content of the first child object into the second child object.

Colgan teaches a method and system for non-model based application transitioning (see abstract), in which he teaches determining a one-to-one relationship between objects (col. 2 lines 47-62 and Table 1; Fig. 4A); and using the processor to remove a portion of the hierarchical structure having the one-to-one relationship by moving content of the first child object (*customer address*) into a second object (*customer*) (column 3 lines 1-12 and Table 2; Fig. 4B).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Gadbois by the teaching of Colgan because using the processor to remove a portion of the hierarchical structure having the one-to-one relationship by moving content of the first child object into the second child object

would enable a reduction in the number of entities in a model or hierarchy and thus make the model or hierarchy easier to work with (Colgan, column 2 lines 47-60).

Further regarding claims 4 and 8, it is inherent that any object may act as a parent object or child object. However, Gadbois in view of Colgan fails to explicitly teach that the second object (i.e. customer) is a child object.

Sutherland teaches object to relational database mapping (see abstract), in which he teaches a hierarchy having a first parent object (*i.e. order*), a first child object (*i.e. customer address*) and a second child object (*i.e. customer*) (Fig. 1A).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have further modified Gadbois by the teaching of Sutherland because the second object (i.e. customer) being a child object would enable efficient retrieval of objects having nested relationships (Sutherland, abstract).

With respect to claim 9, Gadbois as modified teaches wherein the first object is at least one of a business entity, business service, binding template and tmodel (Gadbois, Figure 2, paragraphs 27-28).

With respect to claims 10 and 12, Gadbois as modified teaches wherein the first child object is a relationship object (Gadbois, Figure 2; Colgan, Fig. 4A-B).

With respect to claim 11, Gadbois as modified teaches wherein the parent object is at least one of a business entity, business service, binding template and tmodel (Gadbois, Figure 2, paragraphs 27-28; Colgan, Fig. 4A; Sutherland, Fig. 1A).

Response to Arguments

8. Applicant's arguments with respect to claims 4 and 8-12 have been considered but are moot in view of the new ground(s) of rejection.
9. Applicant's arguments filed October 26, 2009 have been fully considered but they are not persuasive. Applicant argues that Cutlip and Gadbois each fail to teach the claimed elements of claims 1 and 5. Examiner disagrees. Both Cutlip and Gadbois teach directory parent objects having repeating attributes and creating a directory child object associated with the repeating attributes. For example, Cutlip teaches a directory parent object business entity 320, which has 1 to many discovery URLs, one to many contacts and zero to many business services (Figure 3). Furthermore, Figures 15A and 15B represent a business entity having two different business services. Thus it is clear that the parent object has repeating attributes (evidenced by the one to many relationships), and a value associated with the repeating attributes are stored as directory child objects.
10. Likewise Gadbois teaches directory parent objects (i.e. business services node 242) having repeating attributes (i.e. business service1 and business service 2) and creating a directory child object associated with the repeating attributes (i.e. child nodes 243 and 244). Thus it is clear that the parent object of Gadbois also has repeating

attributes (evidenced by the one to many relationships), and a value associated with the repeating attributes are stored as directory child objects.

11. Applicant also argues that the prior fails to teach at least one unique attribute that occurs only once in the at least one directory parent object. Examiner disagrees. Cutlip teaches that a business entity (i.e. a directory parent object) may be uniquely identified by either a Dun and Bradstreet Number, US Tax Identifier, or by NAICS classification (Fig. 10, paragraphs 45-46). Thus any of these three attributes represent unique attributes of the directory parent object. Similarly, Gadbois teaches that an organization name (i.e. Organization1) may be used to uniquely identify an organization parent object. Thus, Gadbois also teaches the directory parent object having at least one unique attribute that occurs only once in the directory parent object.

12. Applicant further argues that the prior art fails to teach removing the repeating attribute from the directory parent object such that the directory parent object comprises only unique attributes. Examiner disagrees. Both Cutlip and Gadbois teach that repeating attributes are moved into child objects and thus the directory parent object is left with only unique attributes. For example, Cutlip shows (Fig. 10) that a business entity (i.e. parent object) has three attributes (Dun and Bradstreet Number, US Tax Identifier, and NAICS classification), which are all unique attributes. The other attributes are all represented as child objects having one-to-many or zero-to-many relationships with the business entity (Fig. 3). The same follows with the directory of Gadbois, as shown in Fig. 2.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Lewis whose telephone number is 571-272-5599. The examiner can normally be reached on Monday - Friday, 9 - 6:30, alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on 571-272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. M. L./
Examiner, Art Unit 2164
January 14, 2010

/Charles Rones/
Supervisory Patent Examiner, Art Unit 2164